

What the invention claimed is:

1. A motor drive controlled to operate a rolling steel door, comprising:

a motor having a motor shaft;

5 a speed reducer coupled to said motor at one side, said speed reducer comprising a plurality of mounting lugs for installation, a power input end coupled to one end of said motor shaft of said motor, and a power output end ^{for Coupling} _^ coupled to the rolling steel door and turned with said motor to take up/let off the rolling
10 steel door;

a brake disk securely mounted on one end of the motor shaft of said motor remote from said speed reducer, said brake disk having a brake lining at an outer side;

15 a shell securely mounted on one end of said motor around said brake disk;

an electromagnet securely mounted inside said shell;

an axle axially connected to the center of said electromagnet;

20 a sprocket wheel mounted on said axle and attracted by said electromagnet when said electromagnet is magnetized, said sprocket wheel having a plurality of peripheral holes around the periphery thereof;

a chain mounted on said sprocket wheel and extending out of a hole at said shell for pulling by hand to rotate said sprocket wheel;

5 a compression spring mounted on said axle and stopped between said electromagnet and said sprocket wheel to force said sprocket wheel into close contact with the brake lining at said brake disk and to stop the motor shaft of said motor from rotation when power supply is cut from said electromagnet;

10 a lever mounted on said axle and operated to disengage said sprocket wheel from said brake disk;

a stop plate pivoted to said shell on the outside, said stop plate having a stop rod moved with said stop plate in and out of a through hole at said shell;

15 spring means connected between said shell and said stop plate to force the stop rod of said stop plate into one peripheral hole at said sprocket wheel in stopping said sprocket wheel from rotation; and

a control box coupled to the power output shaft of said speed reducer to control the operation of said motor;

20 wherein when the control box is controlled to start said motor, said electromagnet is magnetized to attract said sprocket

wheel from said brake disk, enabling said motor shaft of said motor to be freely rotated to take up/let off the rolling steel door; when power fails or is cut off, said motor is stopped, and said electromagnet is disenergized, and therefore said sprocket wheel is 5 pushed forwards by said compression spring into engagement with the brake lining at said brake disk to stop said brake disk and the motor shaft of said motor from rotation.

Part 2 2. The motor drive of claim 1 wherein said control box comprises a screw rod coupled to the power output shaft of said 10 speed reducer by a transmission gear set, a set of movable members threaded onto said screw rod and forced to move along said screw rod relative to each other upon rotary motion of said screw rod, and a set of contact switches driven by said movable members to cut off power supply from said motor when the rolling steel door is lowered 15 to the lower limit position or lifted to the upper limit position.

3. The motor drive of claim 1 further comprising a second contact switch disposed at one side of a top rail of the rolling steel door for a secondary safety control, said second contact switch being triggered by a part of the rolling steel door to cut off power 20 supply from said motor when the rolling steel door is lifted to the upper limit position.